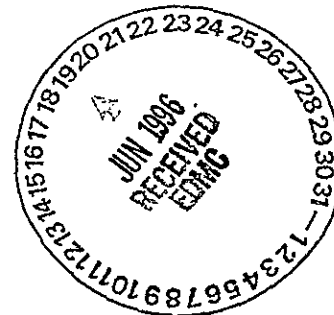


TANK WASTE REMEDIATION SYSTEM
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

Seattle, Washington

Wednesday, May 22, 1996

6:00 O'Clock, p.m.



1 TWRS EIS PUBLIC MEETING

2 SEATTLE, WASHINGTON

3 MAY 22, 1996

4
5 Jerry Pollet speaking -

6 Hi, good evening. My name is Jerry Pollet. I am director of Heart of American
7 Northwest. This sounds really loud to me. Maybe it is where I am. And this is Tom
8 Carpenter, Attorney and Director of Northwest Office of the Government Accountability
9 Project and we are two public interest groups that follow Hanford issues very closely. GAP
10 represents many of the whistle blowers at Hanford and Heart of American Northwest has been
11 involved in ... to ask questions before the formal hearing begins at 7:00. At the formal
12 hearing, Energy and Ecology both have formal presentations and Tom Carpenter and myself
13 will present after they do shortened versions of some of the things we are going to talk about
14 in the workshop.

15 Let me direct you to this sheet. Heart of American Northwest has prepared this sheet.
16 It is a comment form to make it easy for you to follow along on the key issues tonight and to
17 simply circle answers if you do not wish to stand up and speak to each of the issues. We want
18 to encourage you to ask questions during the formal question and answer period as well as
19 during the workshop and to put your comments on the record. You can give values, you can
20 give thoughts, you do not need to be an expert. You can provide testimony on things like
21 what value do you place on protecting the Columbia River. You do not have to express things
22 in terms of risk ranges and fatal cancers, tenth to the minus sixth and some of the other jargon

1 you are going to hear tonight. Ok? Does anyone need one of these forms? to follow along?
2 I'm tied to this cord. I will leave them here for anyone else that needs them.

3 The reason we are here tonight is Hanford's high-level nuclear waste tanks. 177 of
4 them up to a million gallons in size, over 60 of them leaking, many of them potentially
5 explosive. Now, the notices talked about something called the tank waste remediation system
6 and radioactive hazardous mixed waste. We are talking about the high-level nuclear wastes in
7 the tanks that you have all probably heard about in the news. This is a picture of one of the
8 first set of tanks at Hanford. They are buried. You cannot see them below the ground. Many
9 of them are what are called single-shell tanks. That is that they have just one wall. They are
10 the older tanks and out of those 140 some odd older tanks, 66 or more have leaked. US DOE
11 assumes one tank will leak a year even after they pumped all the liquid out of them that they
12 can, there is a sludge left behind and I will show you a fuzzy photo of sludge left behind.
13 This is what sludge looks like inside a high-level nuclear waste tank. Now picture a four-story
14 apartment building that covers a full block filled with this stuff. That is about the size of the
15 large tanks.

16 This layer here is, in some tanks, extremely hard. Like concrete. It is called saltcake
17 and it is sometimes floating above a sludge, sometimes on-top of a liquid. Some of the tanks
18 have simply a thick slurry, cement like slurry at the bottom. It is a devil's mix of combustible
19 and radioactive materials. The infrastructure of the tank farms is not exactly modern. What
20 you are looking at here is the filter unit which is damaged for a high-level waste tank. There
21 are tens of millions of dollars worth of infrastructure and safety upgrades that have to be done

1 for these tanks even if we move ahead with the plan to remove all the wastes by the year 2028,
2 which is the Tri-Party agreement date.

3 Here is another picture of some of the problems in tanks. This is the exhaust duct,
4 duct taped. And as you can imagine, some of these issues are major safety concerns. Here is
5 a picture inside a high-level waste tank and you see tar which has leaked into the tank from the
6 holes in the tank. If things can leak in, things can leak out.

7 Another picture quickly, inside a tank, that is not a very good one so I will skip it.
8 Now this EIS addresses what are we going to do with the wastes in the tanks. The 1989 Tri-
9 Party Agreement said we will vitrify, that is take the wastes and turn it into a glass for
10 eventual disposal. There are a range of alternatives in this EIS ranging from no action to
11 managing the wastes and building new tanks every 50 years to something that the Department
12 of Energy agreed to discard several years ago which is the notion that it would simply fill in
13 the tanks with gravel, and cement, cover them with gravel and leave the wastes there forever.
14 Another option, in situ vitrification, is an unproved technology where you would stick two
15 electrodes into the ground and try to turn the whole block into glass.

16 Another option which we are going to discuss a lot has the fancy name of ex situ/in situ
17 combination. What it boils down to is this. Leave 75 percent of the waste in the tanks
18 forever, fill them with the gravel, remove just the most radioactive, the very, very hottest 25
19 percent, leave the rest behind. There is strong pressure for doing this both within the
20 Department of Energy, Capital Hill, and from the National Academy of Sciences, and we are
21 going to talk about whether or not this EIS will wrongly leave the impression that it is ok to do
22 this option of leaving 75 percent of the wastes behind. So you can see in this presentation

1 from the Department of Energy's materials, it says leaving it behind only has a moderate risk
2 or impact to ground water. We are going to challenge that during this workshop.

3 The next set of options include total retrieval of 99 percent of the waste by the year
4 2028, which is the Tri-Party Agreement deadline so that is these options down here. And this
5 last one is the preferred alternative in the Environmental Impact Statement which is the new
6 Tri-Party Agreement path of building two very small, pilot-scale low-activity vitrification
7 plants and then by the year, in the year 2028 have bigger ones running for high level and low
8 level and getting all the waste glassified by the year 2028. That is the final alternative which
9 is called Phased Implementation in your materials.

10 Now the presentation of costs in the EIS gives what we believe to be a very skewed
11 view to the decision maker as to the benefits of leaving wastes behind. The first, when we
12 look at the alternatives that are realistic that remove at least some of the waste and glassify it.
13 The first one in terms of cost is this ex situ/in situ leave 75 percent behind alternative. And it
14 has a cost range of 23 to 28 billion dollars in the EIS. As you can see, it is much cheaper than
15 the fourth one which is the Tri-Party Agreement path. Now the reason it is cheaper though is
16 this item that has been added into the total cost called the repository fee. The Department of
17 Energy is examining a site at Yucca Mountain in Nevada for the high-level nuclear waste
18 repository. It may never open. It is a billion dollars over cost and 10 years behind schedule.
19 The State of Nevada says it will open over their dead bodies and if it ever does open, the
20 Department of Energy admits it will not have room for Hanford's high-level nuclear waste
21 glass. Yet this EIS creates what is basically a hypothetical repository fee that the department
22 will charge itself reaching into the Hanford pocket and paying itself switching pockets, pay

1 itself in another pocket for use of the repository and it excuse the whole presentation. What
2 happens if you eliminated this hypothetical charge to itself in terms of cost order. Ex situ/in
3 situ is lower cost. Now it is 17 to 22 billion dollars but low. Now the TPA path is really in
4 the same price range. Remember citizens cross the region have advised the Department of
5 Energy repeatedly to not make decisions about Hanford's wastes based on hypothetical
6 opening of this repository. We expect that unfortunately, I will die before Hanford's high-
7 level nuclear waste moves somewhere and we certainly do not want to push it off somewhere
8 where it is not safe. So the question is are we going to glassify our waste? Turn it into glass
9 logs, put them in steel canisters and build a safe long-term storage facility onsite because it is
10 not going to go to Yucca Mountain, Nevada. Even if Yucca Mountain, Nevada opens near
11 2010, that repository will not have room for most, if not all, of Hanford's glass waste.

12 Look what happened to the no separation alternative. This is an alternative where you
13 do not try to separate highly radioactive material from the lower radioactive material.
14 The reason the Department of Energy wants to do that is to avoid this repository cost, but if
15 you just create glass logs and do not try to separate the stuff, amazingly you drop this
16 incredible figure of 211 billion dollars out of the costs of the alternative. In other words, there
17 is a 211 billion dollar hypothetical inflater added into the cost of this alternative. That is going
18 to totally skew any decision makers view of this alternative. In fact, this alternative might
19 make glass faster, cheaper, and at less risk than any other alternative. Now that the
20 Department of Energy, let me ... what does that mean if you remove that hypothetical
21 repository fee, the ex situ/in situ leave it behind alternative goes from lowest cost by 4 to
22 8 billion to only being 1 to 7 billion lower cost. The extensive separation lets us invest a lot in

1 new technology to try to separate high from low chemicals from the rad that goes from the
2 second most favorable to the least favorable alternative and the claimed cost advantage for
3 extensive separation over the Tri-Party Agreement evaporates as does the claim cost of that
4 advantage for leaving it behind.

5 As I said, there are many people who want leave it behind, because they think it is
6 going to save U.S. taxpayer money. And if the risks of leaving it behind are not believed to
7 be very high, then of course the rational decision maker would say I saved billions and the
8 risks are not very high so why should we not do it. And the answer to that has to do with risk
9 of explosion on the one hand, risk to the Columbia River from ground water contaminating by
10 tank leaks on the other hand. For years, the Department of Energy has been told to stop
11 claiming that tank leaks do not threaten human health, the Columbia River, or the
12 environment. As late as 1994 when there was a leak in the T Tank Farm, the U.S.
13 Department of Energy told the news media that "the tank leaks posed no threat to human
14 health or the environment" and that is a quote. The GAO we requested in 1989 to Senator
15 Adams and Congressman Don Bonker a report on whether or not the DOE could make this
16 claim based on evidence. The Department of Energy was told by the GAO that tank leaks
17 threaten the Columbia River and to stop making this assumption that tank leaks stay right near
18 the bottom of the tank and do not move into groundwater.

19 To be precise what the Department of Energy was told right here is, "studies predicting
20 the eventual environmental impact of tank leaks do not provide convincing support for DOE's
21 conclusion that the impact would be low or nonexistent. And what we are about to show you,

1 what GAP has put together is a presentation on impact of these tank leaks and what is not in
2 this Environmental Impact Statement.

3 The EIS assumes that when a tank leaks it takes 140 years to go from the bottom of the
4 tank down to the groundwater and then 10 to 25 years to flow into the river. That is 140 years
5 minimum, 140 to 250 years. That is not in this EIS. It is all referenced to data that Tom
6 Carpenter is going to show you now about plutonium and there are only about three sentences
7 in a 2,000-page EIS about the new data about cesium found far beneath the tanks where this
8 EIS says it would take 140 years to be found. I am going to turn it over to Tom Carpenter of
9 the Government Accountability Project.

10 Tom Carpenter speaking -

11 Thank you Jerry. The issue of monitoring the soil beneath the tanks and the impact on
12 groundwater has been a controversial one for several years as indicated by Jerry's reference to
13 the GAO studies. And in the late 80's, onsite experts were raising concerns about the ability
14 of the site to be able to monitor and detect how far the waste that has leaked into the ground
15 has migrated much less the extent of the migration. So far, all we have are estimates from
16 Hanford of how much waste has leaked into the ground and that estimate is around a million
17 gallons. Some people think it is higher than that but there really is no way to tell right now
18 because the recordkeeping is not great and the infrastructure as you saw in some of the
19 photographs is not so hot. So we are kind of far behind in the technology that is available for
20 detecting tank leaks much less migration of the radioactive waste beneath the tanks to the
21 ground and whether or not that radioactive material is actually hitting the groundwater.
22 However, several years ago, one of the experts who had raised a lot of controversy, John

1 Broder, hired on with Rus Geotech which is a DOE contractor out of Grand Junction,
2 Colorado. He was brought into Hanford and his company applied the state-of-the-art
3 technology that gave us the first looks at whether or not the cesium and plutonium and some of
4 the other high-level radionuclides were indeed staying close to the tanks or whether the waste
5 was starting to migrate. And this is important because as Jerry said, if the alternative is to
6 leave most of the waste in place or even some of the waste in place, that may have a
7 significant impact upon the groundwater of the Northwest.

8 I'm going to play with this thing here just a bit and get this box minimized. This was
9 prepared by Hanford's contractor, Rus Geotech, and this is a slice of the ground underneath
10 the tanks. And I am going to show you a little bit in slow motion here of what you are
11 looking at. This is obviously a graphical representation of the tanks. I wish this cord was
12 ...I'm going to take this off and ...just show ...Measurements and holes that were drilled into
13 the ground around the tank farms and measurements taken of what radionuclides are present
14 and at what levels. The blue represents the low end of the cesium contamination scale so what
15 you are looking at right now -- there are the tanks, this is the top of the ground, and this is the
16 level of cesium low levels around the tanks.. Now the green is obviously the higher level of
17 cesium so you have a hot spot there and what this is going to do is this plume is going to
18 shrink and you are going to see a definition of a higher level of contamination as we go along.
19 So you see the green starting to define there and these are the higher levels, you are looking
20 now at 3 picocuries per gram of cesium and 6 picocuries per gram to 12, 50, 100 picocuries
21 per gram then 200, this is approximately 400, the yellow, 800 so you are getting a good idea
22 of where exactly this waste is being detected underneath the tanks. There you have about

1 1,600 picocuries per gram, 3000, and 6,309 picocuries per gram. Very high levels of cesium
2 right there and then. We will get another view of this.

3 Looking at the top and if you see down there, the bottom, this is as far down as they
4 can measure which is about 135 to 140 feet. The groundwater starts at about 200 feet.
5 They do not know if it has hit the groundwater yet. This contamination plume, but the red
6 indicates very high levels. In fact, they were unable to measure about the 10,000 picocuries
7 per gram. Their equipment was not capable of going over that. So they have a big problem.
8 Moving to a top view or an aerial view of the tanks and you will see as a slice going down so
9 there is the ground. Obviously, the ground is covering the tanks and you are seeing some
10 significant contamination on top of the ground from spills and past operations. Ok going
11 down to 12 feet, there is the top of the tanks, it is actually the middle of the tanks there, 18
12 feet again you are seeing a lot of blue and you can see the plume starting to show up right
13 there and moving down to 42 feet, 48 feet, ok now we are below the tanks 52 feet and 58 feet
14 you start to see high levels, the red spot in the center of the screen and suddenly, bam, you are
15 getting more contamination going down further, 82 feet down, 88 feet down, 94, 100 feet,
16 106, 112, 118, and down to the bottom of the borehole which is as far as they can measure.
17 So obviously, the billion dollar question is whether or not this stuff has hit the groundwater.
18 We heard from state geophysicists experts a couple of weeks ago at the Hanford Advisory
19 Board Subcommittee meeting that they are 95 percent certain that some or at least one of the
20 radionuclides, technetium-99, in the groundwater has come from the tanks. So for the first
21 time, we are hearing that tank waste has hit the ground water from a governmental agency.
22 The Department of Energy is not sure, it is still studying that situation and there is a lot of

1 internal politicking going on as to whether or not the company that prepared this, did this
2 investigation, brought in John Broder to prove that he could do it cheaper, better, faster. Well
3 actually even survive because maybe as messengers of bad news they are not welcome at
4 Hanford these days and that is our concern.

5 We have a real interest in the northwest in seeing good science committed efficiently at
6 Hanford and this bears, this kind of information really is useful to be able to determine what
7 are our cleanup options for the tanks. And the fact that this kind of information here that is
8 shown by DOE's own contractors is absent from the EIS. It is not considered in the
9 discussion of the EIS. It is very, very disturbing to us, Heart of America and Government
10 Accountability project. We think this information should be in the assumptions of the TWRS
11 options, the cleanup options. We think it is almost beyond argument that there is significant
12 contamination migrating into the ground. This contamination here that was mapped out and
13 graphed out by Rus Geotech is not supposed to be in the groundwater for 140 to 250 years
14 under one of the options. Another option says 2,000 years. So what DOE says is not going to
15 be there for another 150 years is there now according to their own scientific experts and
16 according to the State Department of Ecology. We think this EIS needs to be reworked. We
17 do not want to slow down tank farm cleanup. We appreciate the fact that speed is necessary.
18 However, significant information like this should not be ignored and so we are going to be
19 putting that to our comments to the DOE and we are hoping that the northwest public pays
20 close attention to the cleanup plans and the options that are presented so this information can
21 be accounted for and considered.

1 Geoff Tallent speaking -

2 Alright, I am Geoff Tallent with the Washington State Department of Ecology and we
3 co-prepared this EIS with the Department of Energy and I will turn this over to Carolyn.

4 Carolyn Haass speaking -

5 I am Carolyn Haass. I am with the U.S. Department of Energy. I am the
6 Environmental Impact Statement document manager, which means I am managing this effort
7 just as Geoff is for Ecology.

8 Geoff Tallent speaking -

9 You guys have already met these two so I would just as soon open this up to questions.
10 I do not know if there is a whole lot to say here. We heard Jerry and Tom's opinions about
11 what is happening and that ... I would just as soon hear questions I think. I do not know if
12 Carolyn has a few things she wants to say.

13 Carolyn Haass speaking -

14 No, go ahead.

15 Geoff Tallent speaking - (man in audience talking underlined)

16 Ok — in total agreement — and you know-and that is actually probably part of our
17 response is we do agree. This information concerns the state and, I am sure, the Department
18 of Energy a great deal. There is a big threat from waste, which has already leaked out of
19 those tanks. However, our EIS is dealing with the waste that is still in those tanks and our
20 focus is getting the waste out of those tanks as quickly as we can to prevent future leaks like
21 this from happening.

1 Carolyn speaking -

2 Just to tell you, DOE is in the process of determining the extent and potential impacts
3 of waste that has leaked from the tanks in the past and that includes looking at the vadose zone
4 that Tom and Jerry both talked about that is beneath the tanks and we are in the process of
5 doing those studies right now and the SX Farm information that you saw up there, DOE is
6 supposed to be getting a comprehensive report of that whole farm sometime in June of 1996
7 and when the data becomes available, we will put that into this Final Environmental Impact
8 Statement.

9 Man speaking -

10 Note there is a difference between whether or not the assumptions and risks will be
11 recalculated and for instance the conclusion that there is a moderate risk to groundwater from
12 that leave it behind alternative and what are the risks of any delay. The State of Washington
13 has said that the Department of Energy's decision to basically what they called privatize the
14 vitrification plants is "a high risk." High risk being that it may not work and they may have to
15 go back to square one and it may delay efforts at removing wastes for several years. Well,
16 what is the risk of delay. You have two different views. This EIS presents one view which is
17 maybe not all that significant after all it takes 140 years for wastes to reach groundwater.
18 Another view is that any delay is a matter of emergency in terms of groundwater and the
19 Columbia River.

20 Man speaking -

21 Here is my concern. These tanks contain an estimated 220 million curies of radioactive
22 material. There is ... and I am in quantity in the ground but probably a significant quantity of

1 radioactive material in the ground. The assumptions have been for years and years that this
2 waste binds with the soil and does not migrate. The impact, potential impact of that on the
3 groundwater of the northwest which waters our crops and goes into the river is used by
4 Portland, etc., is practically incalculable and this information is so significant potentially if
5 there in fact is a quick migration into the groundwater that all kinds of practices need to be
6 reviewed, not just the EIS, but the fact that there is still a lot of liquids being popped into the
7 ground in the 200 Area from facility, you know, operations and what not. Billions and
8 billions of gallons that could be used as a driver for this contamination when before it was
9 thought it did not have any effect. So this is ... it should be considered in the EIS in terms of
10 if you have a cleanup option for instance that uses sluicing which is high-pressure water
11 streams to loosen the wastes and get it out of the tanks, you are going to have spillage. They
12 estimate some 40,000 gallons of water spilled into their ground from that operation. Man in
13 audience -- 4,000 per single-shell tank -- end man in audience. Per single-shell tank and
14 how many single-shell tanks? 140? Thank you, 149 so a lot of water going into the ground
15 from that operation. I do not know. It just seems that DOE ought to take a moment to slow
16 down, put the resources necessary to get a handle on this right away and I understand, and
17 Chris Bader confirmed to me, yesterday in a phone conversation from DOE that there is a ...
18 to rebid the rest of your tech contract. Is that true?

19 Carolyn - answer - I am going to have to let Chris. Chris Bader is the Deputy Assistant
20 Manager for the Tank Waste Remediation System program - end Carolyn.

1 Chris Bader - speaker

2 Ok thank you. As I indicated my name is Chris Bader and I am the Deputy to the
3 Assistant Manager for the tank program out at Hanford and I would like to respond to a couple
4 of things that we have been addressing here with respect to the groundwater. First of all, the
5 study that was initiated in April of 1995 was initiated by us. This contractor was obtained
6 basically on contract with an outfit out of Grand Junction and their contract expires in June.
7 Now the question is, as to whether this contract will be re-competed or not, and that question
8 has not been answered. We have some time to make that decision, I believe it can extend all
9 the way through August, but we are in the process of looking at that. So there is no question,
10 however, that we are going to continue with the vadose zone monitoring system. We only
11 have completed one tank farm and basically, the data you have seen here tonight is based upon
12 a draft document that we have yet to receive formally from the contractor that shows these
13 data. So anyhow, we have a total of 12 tank farms to do of which only one is basically
14 complete so we have a lot to do and we intend to continue this program for the next 2-1/2
15 years and get this done.

16 The other thing I would like to respond to is that these data is not totally unknown.
17 We became aware of it basically in December and the EIS was well along in its being put
18 together. This is an extensive document, several thousand pages. So what we have opted to
19 do is we put a fairly extensive paragraph in Volume 1 that says that the data is enlarging. If
20 these data and we have yet to receive the final report, but if these data suggests that we ought
21 to be changing the ground rules and assumptions that built the EIS we are going to do that.
22 Now, you can not do it based on conjecture. There is a woman speaking - I am the

1 facilitator. If you could close up in about 5 minutes then we could get started people can
2 take a little break before - just so we will be ready in about 5 minutes. Sure, super, yea no
3 problem. So anyhow there is a lot of conjecture about these vadose zone sources. It could be
4 that this is migrating as a result of the tank's leaks. Jerry accurately portrayed the story.
5 We have only 60 some tanks that are either leaking or that we suspect that are leaking. In
6 addition, it is possible that these materials are migrating and they are migrating faster than we
7 calculated. There are also several other possibilities as to how this material got to these wells.
8 The very first study that came out was when one of the tanks leaked in the late 60's. It
9 received one of the first batches of material that came out of our PUREX processing plan.
10 It was very hot. Hot in terms of temperature. It buckled the tank and the tank burst and it
11 leaked. At, to evaluate the impact of that there was, as Jerry indicated, several of these
12 monitoring wells strategically placed along in this tank farm. Most of them are drilled to a
13 depth of 75 feet. One, several of these wells were then gone into and replunged down to 125
14 feet. The question is always remained ... or has come up, did we further contaminate the well
15 by just pushing it deeper? Because we had detected these levels for some time. We were not
16 sure of the isotopes. We now, with new instrumentation, have determined it was cesium or is
17 this the result of migration. That is yet to be determined. So there are questions. I am not
18 taking a stand one way or the other. I am just saying that there are things that need to be
19 answered here before we move forward. The other thing I would like to point out is that the
20 Environmental Impact Statement is not a strategy in terms of how you get things done. The
21 Environmental Impact Statement is simply a document that evaluates alternatives of what
22 should be done, not how it should be done. We have given a range in here from basically

1 doing nothing and have evaluated nine different alternatives to the one that we have
2 recommended and that is what is called the preferred alternative and that is to take out 99
3 percent of the waste. Take it and put it into some kind of immobilized form and then send to
4 the proper storage area. Whether there is a repository or there is not a repository is not the
5 debate. The debate is to what we do with the waste. So I would like to go through the
6 presentation tonight if we could possibly keep that in mind I would appreciate it. I think it
7 would be the proper thing to do. However, there are a lot of good comments and we have,
8 this is our fifth session. We want to thank everyone for turning out tonight and I guess turn it
9 over to the facilitator.

10 Woman Facilitator speaking -

11 Yes, what we would like to do is take a little break and get set up for the formal
12 meeting. So the facilities are under the stairway if anyone needs that before we get started so
13 we rearrange.

14 Man in audience speaking -

15 A reminder there are ...

16 Phyllis Boss speaking -

17 I am Phyllis Boss with the Department of Ecology. I work in the air quality program
18 and so know very little about the issues here. My role today is simply to facilitate this
19 meeting to make sure that everyone gets an opportunity to hear the information and comment
20 and ask questions. I am going to maintain an informal atmosphere while still making sure we
21 stay on task and we get all of the issues accomplished. All of the activities accomplished. So
22 I will need your cooperation. What we need, can we fix the mike so it is not buzzing. What

1 we will need is cooperation. It is kind of a small room so we need to be careful of noise. Be
2 sure if you are whispering to your neighbor it is only to your neighbor and we are going to be
3 asking people to talk one at a time, not to interrupt, and we will take comments or questions
4 after the speakers are done. We want your comments so we want to make sure that everybody
5 gets an opportunity to speak when the time is right. I hope you all know that this meeting is
6 on the Tank Waste Remediation System's Draft Environmental Impact Statement. I hope no
7 one came here thinking it was something else.

8 I am going to be somewhat formal because some things have to be in the record and so
9 I am just going to read off my script for those things. We are going to have speakers first,
10 they will be from the Department of Energy, Department of Ecology, Heart of America
11 organization, and the Government Accountability Project and that is going to take about 40
12 minutes and then we will take questions from the floor for about 30 minutes and that may not
13 be enough time for all your questions but we are going to break at that point and let the formal
14 process start and I will give you a little opportunity to say you want a few more minutes for
15 questions and answers before we go into that. But for those people who came specifically to
16 give comments on the EIS, we want to set that time and according to my prediction (and that is
17 not my strong suit), that would be about 8:15 providing everything is on time. So at that point
18 we will have the formal comment period and then if people are willing to stay after the formal
19 comment period and we will take in all of the comments. We may have to limit the amount of
20 time people take but people will stay after and answer all your questions after the formal
21 meeting ends so even if you did not get a chance to get your question in, you will have an
22 opportunity later.

1 So here comes the formal part. Let the record show that it is now 7:02 pm on May 22,
2 1996 and this hearing is being held in Seattle, Washington at the Port Authority offices. The
3 legal notices of the intent and scoping of the Environmental Impact Statement were published
4 in the Federal Register on January 24, 1994 and the State SEPA register on January 28, 1994
5 and the Notice of the Draft Environmental Impact Statement was published in the Federal
6 Register April 12, 1996. Display ads were put in the Seattle Times and the Post Intelligencer
7 announcing this meeting and that was published April 7, 1996 and again yesterday, May 21st.
8 In addition, notices were mailed out to approximately 4,000 people and this proposal and the
9 meeting were also listed on the Internet on the Hanford Homepage. Ok?

10 Again my role here is simply to keep the meeting moving in making sure that
11 information gets shared. I will talk about some more specific ground rules when we start the
12 question and answer period and when we start the public comment period. But for the most
13 part, politeness rules, common courtesy, and I will call on people when it is time for them to
14 talk. Does anyone have any problems with sort of the format of this meeting? It should go
15 fairly smoothly. Tonight we are going to have four speakers. Carolyn Haass, the Project
16 Manager of the Department of Energy is going to speak first, and then Geoff Tallent who is
17 from the Department of Ecology will speak second and then Jerry Pollet with the Executive
18 Director of Heart of America, and Tom Carpenter, Seattle Office Director of Government
19 Accountability Project will speak at the later part. After that, we will have the question and
20 answer and I will give you some more rules at that point. So I think we can have our first
21 speaker then.

1 Carolyn Haass speaker -

2 I am Carolyn Haass. I am with the U.S. Department of Energy. I work at the
3 Richland Operations Office over in the Tri-Cities and DOE and Ecology are here tonight to
4 discuss with you the Draft Environmental Impact Statement for the Tank Waste Remediation
5 System program. What that means is, to the Environmental Impact Statement for the tanks.
6 This EIS was co-prepared by the U.S. Department of Energy as well as Ecology to meet two
7 different regulations. One was the National Environmental Policy Act and one is the State
8 Environmental Policy Act. One thing to note is that this document was approved and
9 concurred through all levels of management. Both within the Energy and well as the
10 Department of Ecology. This Draft Environmental Impact Statement evaluates a range of
11 alternatives for the management and disposal of the tank waste as well as the cesium and
12 strontium capsules which were produced during the 1970's. And these capsules, actually the
13 cesium and strontium were from the tanks, we processed them out because the heat loads in
14 those tanks were extremely high and we wanted to pull some of that heat out. The reason we
15 are here tonight is to listen to you, the public, and to receive public comment on this
16 document. The reason why we want your public comment is we want to improve our
17 document and we want to make sure that you are heard. I am not quite sure if everyone has a
18 copy of this document, the Summary, Volume 1, or any of the associated appendices. You
19 can receive a hardcopy or a printed copy or it is available on the Internet. And if you would
20 like to know what the Internet number is, you can talk to me or you can talk to Geoff
21 afterwards. If I get a little clumsy here, I am not very good at doing this, I mean the slides.
22 The purpose of the proposed action for the tank waste and the cesium/strontium capsules

1 analyzed in this Environmental Impact Statement is: one to reduce risk to workers, the public,
2 and the environment or the human health and the environment. The second one is compliance
3 with Federal, State, and local laws and regulations, and third need is the management and
4 disposal of the waste which includes the tank waste as well as the cesium and strontium
5 capsules.

6 To give you a little more detail of the scope of the EIS, it includes the management and
7 disposal of the radioactive and the hazardous and the mixed waste within the TWRS program
8 or within the Tank program and specifically it includes the management and disposal of sixty
9 56-million gallons of waste that are currently stored at 177 single-shell and double-shell
10 underground storage tanks. Also, it will include future waste that will be stored in those 177
11 underground storage tanks. The scope also includes the waste within 60 smaller inactive and
12 active miscellaneous underground storage tanks. I know there are a lot of terms here but
13 miscellaneous underground storage tanks is defined as a tank that ranges in size about 5,000 to
14 50,000 as the tanks I talked about previously range in size from 50,000 gallons up to 1.2
15 million gallons. Just to let you know how much waste is contained within these smaller
16 miscellaneous tanks: it is about 250,000 gallons total.

17 The third item in the scope of this EIS, as I indicated earlier, the cesium and strontium
18 capsules, and they are currently stored in the facility called The Waste Encapsulation Storage
19 Facility. What has happened is these capsules are kept in a pool of water so we can keep the
20 temperature down on the capsules we have a lot of heat radiating from it due to the cesium and
21 the strontium.

1 Now to get a little more specific on what is in this EIS or the specific actions within the
2 scope of the EIS. The first item in there is the tank farm operations and management. It
3 means it is the continued operation of the tank farms in a safe manner. DOE have, you know,
4 we are going to do that no matter what. A tank farm upgrade. This means that we are going
5 to upgrade our facilities within the tank farm so we can retrieve, treat, and dispose of those
6 wastes properly. And upgrades include instrumentation, monitoring, ventilation, and even
7 some of the piping between the tanks and maybe the facilities, you know the facilities we are
8 going to build to treat these wastes.

9 It also includes the remediation of the tank waste within the double-shell, single-shell
10 tanks. Also, it is going to include the disposal of those wastes.

11 The last two items are the remediation of the miscellaneous underground storage tanks
12 and the management and disposal of the cesium and strontium capsules.

13 Actions outside of the scope of work. They fall under two different categories. The
14 first two items are waste characterization and cross-site transfer system. We have already
15 completed NEPA or National Environmental Policy Act documentations on waste
16 characterization. That was completed in 1993. We have also completed this type of
17 documentation for the cross-site transfer system which will transfer waste from one area of our
18 tank farms called 200 West to the other area which is called 200 East and they are about
19 6 miles apart and we are going to construct a cross-site transfer line or Resource Conservation
20 Recovery Act Compliant Line and that NEPA documentation was completed in December of
21 1995. The other four actions listed here all associated with closure of the tank farms which
22 include the remediation of the existing groundwater and soil contamination, the

1 decontamination and decommissioning of the facilities built for the treatment of the tank waste
2 as well as the tank farm closure.

3 The schedule for the EIS, way back in January 1994, the Department of Energy sent
4 out a Notice of Intent and this Notice of Intent said we were going to go out and complete a
5 National Environmental Policy Act documentation for the Remediation of the Tank Waste.
6 We went out and had five scoping meetings and we received your comment on what you
7 would like us to evaluate in this document. And that occurred in the February/March
8 timeframe in 94. We sent out an implementation plan in December of 95 which told you what
9 this document was going to look like and on April 12, we sent this document out to the public
10 for you to review and give us comments back. We are having a 45-day public comment
11 period and this public comment period is going to end next Tuesday, May 28. And we are
12 tentatively scheduled to finalize our Environmental Impact Statement at the end of July with
13 the Record of Decision to follow in August of 1996.

14 The next slide has a lot of boxes here, but we are going to go through this real briefly.
15 I am going to go through a description of each of the alternatives we evaluated in this EIS.
16 You can categorize these in four major areas based on the extent of retrieval ... or retrieval of
17 how ... well, how much tank waste we will actually remove from the tanks. And the first one,
18 first category is continued management. This is where no waste would be removed from the
19 tank and we would only have continued management of the tank farms in a safe manner.

20 The first alternative under continued management is no action. That means we would
21 do nothing but continue to maintain safe operations in the tank farms for 100 years. This is
22 required by the National Environmental Policy Act for us to analyze. The second alternative

1 under continued management is long-term management. This alternative is where we would
2 still continue to manage the tank waste in a safe manner but we would replace the double-shell
3 tank systems and the associated ancillary equipment twice during the 100-year period.

4 The secondary category is minimal waste retrieval. This is where we would only
5 remove the liquids out of the double-shell tanks. We would concentrate these liquids.

6 We would put them back in the tanks and then we would deal with the waste in two ways.

7 The first one is in situ fill and cap where we would go back in, we would fill these tanks with
8 gravel and then we would put some type of earthen cover or earthen barrier over the top and
9 that alternative has no treatment associated with any of the tank waste. The second alternative

10 under minimal waste retrieval is in situ vitrification or where we would leave the waste in
11 place and we would vitrify the waste in place. And this has treatment associated with it.

12 The third category is partial waste retrieval. This is where we would remove part of the waste
13 out of the tanks and treat and dispose of the waste and we would leave some of the waste in
14 the ground. How we would determined what wastes we would remove is that we would

15 remove the waste the poses the biggest risk to human health and the environment. And the

16 alternative that is analyzed in the EIS says we are going to remove waste from 70 tanks or
17 approximately 50 percent of the waste out of the ground and we would leave the other

18 50 percent in place and that waste left in place, those tanks would be filled and we would have
19 an earthen barrier put over those as well. The fourth category is extensive waste retrieval.

20 We have, this is where we would remove 99 percent of the waste out of the tanks or as

21 practical. There may be some instances where you could not get 99 percent of the waste out
22 of the tanks but our goal is 99 percent which is inconsistent with what the Tri-Party

1 Agreement says for the Hanford Site, it is also consistent with the tank waste taskforce that
2 was put together in the 93-94 time frame.

3 The first alternative deals with retrieving the waste but there would be no separations
4 of the radionuclides out of the waste. That means all the waste would be considered high-level
5 waste and we would then vitrify that waste. The second alternative, intermediate separations,
6 is where we would try and start to remove the radionuclides of most concern which are cesium
7 and strontium from the waste and we would have two fractions. Once we separated that, we
8 would have a high-level waste fraction and a low-level waste fraction. The high-level waste
9 fraction after you would treat it, you would vitrify that waste, you would interim, you would
10 put it in interim storage on the site until your national geological repository became available.
11 The low-activity waste will be disposed of onsite.

12 The third alternative, ex situ extensive separations, is where you would remove all the
13 radionuclides from the waste so you would have all your radionuclides in your high-level
14 waste fraction and you would have radionuclides in your low-level waste fraction.

15 The fourth alternative you see there is phased implementation. It is our preferred
16 implementation. The phased implementation is an alternative that is very similar to our ex situ
17 intermediate separations; however, it would be done in phases. Phase 1 would be a pilot-scale
18 type facility where we would flush out understand the uncertainties of the facility that we were
19 dealing with and then in Phase 2 you would apply your lessons learned from Phase 1 and you
20 would build your facilities full scale.

21 I think, as you note on this chart, as you go down the boxes that you have an
22 increasing level of action. You go from doing nothing to retrieving of the waste.

1 Now I would like to turn it over to Geoff Tallent. He is with the Washington State
2 Department of Ecology and he is going to talk to you about the risk assoc ... the impact
3 associated with these alternatives.

4 **Geoff Tallent speaker -**

5 I guess I will start with that is me. I am going to try and run through probably most of
6 the 2,000 pages of this EIS in about 5 minutes so I am distilling a lot of information into some
7 very short pieces here.

8 As I flip through slides here, because there is a lot of information, if you want to
9 follow along and see it all in one spot, there is, in the packet, available the table matrix which
10 essentially has all the information in my slides in one spot.

11 In conducting our analysis, we found and we divided our analysis really into two
12 stages. The first stage is short-term impacts which lasts for about 100 years. That is the
13 period of time in which the tanks are still maintained, there is still workers out there doing
14 work, and the treatment that needs to be done is taking place.

15 The second period is long-term impacts. Those are from about the end of the 100-year
16 period out through 10,000 years. We did an analysis out through 10,000 years because we
17 found that captured most of the impacts that would last over time.

18 I will start moving into the short-term impacts here. And the areas we looked at were
19 occupational and operational accidents, transportation accidents, worker exposures both under
20 normal operation of the plants and facilities and transportation of the wastes. I am going to
21 stop on this for a moment here. I know I flashed through the slides there pretty quickly and I
22 want to stop and talk about the trends we saw among those slides. The important trends we

1 found were first there is very little potential for short-term impacts to the public. Most of the
2 risks to workers, most of the risks are to the workers and for the most part confined to the
3 site, the area where the work is taking place.

4 The second trend is that the more the waste that is retrieved and treated and shipped,
5 the greater the potential there is for short-term impacts. In other words, the more work you
6 are doing with that waste under the ex situ alternatives, the more potential that is for those
7 worker risks.

8 I want to stress this EIS is not saying that these potential risks to workers are an
9 acceptable cost of doing business. These are real risks and we wanted to show them, these
10 types of risks though, there are avenues available to us to control them and this type of
11 analysis helps us in the agencies understand where those opportunities are and hopefully take
12 some steps to avoid them.

13 There are two more areas of short-term risks or impacts, I am sorry, and these are
14 shrub-step habitat that would be disturbed. All of these activities except the no action
15 alternative requires some construction of facilities, in doing that, you have the potential to
16 disrupt habitat out at Hanford. Hanford has a habitat which has been designated by the
17 Washington State Department of Fish and Wildlife as priority habitat because of its uniqueness
18 in the diversity of species which it supports.

19 The final category there is additional employment. This is an impact from the number
20 of workers basically that it takes to perform whatever alternative we are looking at. We have
21 looked at this category because the more people out there working the more potential the
22 impact there is on the Tri-Cities with respect to schools, transportation, infrastructure, and the

1 trend that is fairly straightforward there the more work you do with the waste, particularly in
2 the ex situ alternatives, the more workers you will require.

3 Just cover this up for a minute here. And I want to talk about a couple of aspects of
4 long-term impacts before I start flipping through those slides for you. I want to remind you of
5 a couple things which Carolyn touched on. First, the analysis only shows the potential
6 impacts from TWRS actions. For instance, the information you saw Tom and Jerry present
7 you earlier and you will probably see again in a little bit here. Those are impacts, that is
8 waste that has already leaked out of the tanks. The analysis I am going to go through right
9 now does not include the risk from that type of waste. We look at that in the cumulative
10 impact section of the EIS but our focus on this EIS is the waste that is in the tanks right now
11 and the potential risk that may cause.

12 The second thing I want to remind you of that Carolyn touched on is that all of the
13 actions and the risks I am showing over 10,000 years except for the No Action alternative
14 assumes that a barrier has been placed over these tanks. We are not making decisions on
15 closure but we felt we needed to include a barrier because that was a reasonable path of,
16 reasonably expected thing to see in the future. So that does affect our numbers. With that, I
17 will move into the long-term impacts.

18 To look at long-term impacts, we created several scenarios. The first scenario is an
19 onsite farmer scenario. We also looked at an industrial worker, a recreational scenario which
20 is someone using the areas along the Columbia River for hunting and fishing, and we looked at
21 downriver users (people downstream on the Columbia River which may use that water), a
22 waste site intruder, and accidents that may happen out into the future.

1 I am going to move back to the residential farmer scenario for a moment hear and talk
2 through a little bit more exactly how we approached that. This scenario involves a farmer
3 who is out on top of the Hanford Site above the contaminated plume and is drinking
4 groundwater from a well and also bathing and irrigating crops with that water. This scenario
5 shows quite a bit of risk there. We express it in two different ways. The first is maximum
6 risk to the individual. This is the person who would get the highest concentration at the point
7 in time when that concentration is greatest. So nobody would conceivably get a worse
8 exposure than this. The trend in our analysis and this is reflected through most of the other
9 scenarios we created was the person under, I am sorry, under the in situ alternatives where the
10 waste is left behind, the risks are very high. Those risks diminished quite a bit when you take
11 the waste out of the tanks. But when you see numbers like 3 and 10,000 there, I want to point
12 out that those numbers are still higher than what the Federal Superfund Law strives for in
13 clean up and higher yet than Washington State's clean up goals which are 1 in 100,000. I will
14 move on, there are two more areas of long-term impact which we looked at and this is actually
15 more of a summary of the areas we looked at and this is to give you a relative sense of the
16 groundwater impacts over the long-term, and the types of use restrictions that will be required
17 for that groundwater. Under all of our long-term impacts, the analysis bore out two trends
18 and I touched on it some with the residential farmer, first that the groundwater is the greatest
19 overall pathway for future risk under all these scenarios, that is what we found. And the
20 second trend is that the ex situ alternative leaves a much lower long-term impact than the
21 untreated in situ alternatives but that risk is still significant in many cases for the long-term
22 risk. That pretty much concludes what I was going to do. I know I moved through this pretty

1 quickly and so I encourage you to ask any questions during the question and answer period if
2 you want me to elaborate on any of the risks or call me or call Carolyn. Both of our numbers
3 are out there in your information packets. I want to remind you of a couple more things
4 before I go, though. These analyses for the risks were based on conceptual approaches and
5 scenarios and are designed to bound the potential impacts. The analysis provides us with
6 reasonable confidence the potential impacts if a particular scenario were followed but whether
7 that scenario was actually followed is more difficult to predict. However, we believe with the
8 scenarios we chose, it gives us a reasonable understanding of impacts and ... allows us to
9 discriminate among the alternatives but this is a draft document and so if you see areas where
10 we have overlooked potential risks or you think we have miscalculated them in some way,
11 please let us know. We like to hear your comments tonight and in writing. So I am going to
12 turn it back over to Carolyn here. She is going to talk about one other aspect of the EIS.

13 Carolyn speaking -

14 I will hurry. How much time do I have? facilitator - I would say about two minutes
15 by ... information so The next thing on the tank waste alternatives that I want to discuss
16 is the Regulatory Compliance Act's aspect and one of the things I want to note that the
17 National Environmental Policy Act requires an Environmental Impact Statement to address a
18 full range of alternatives even alternatives that may not be in compliance with Federal, State,
19 and local laws and regulations. If for some reason an alternative was picked that was not in
20 compliance with regulations, that would mean DOE would have to go get a waiver from that
21 law or regulation or we would have to go to Congress and get that changed which is a very
22 difficult process. I think the one thing you can see from this chart is that none of the

1 alternatives that leave tank waste in the ground are in compliance with the regulations as when
2 you take them out of the ground, they are in compliance.

3 The next slide shows the technical uncertainties and the costs associated with the tank
4 waste alternatives and under Technical Uncertainties, this column shows you the relative level
5 of technical uncertainty between the alternatives. As you can see, as you move from the no
6 treatment alternative to the alternatives that have treatment associated with them you increase
7 your level of technical uncertainty. However, there is one exception which is our preferred
8 alternative, phased implementation, which is where we feel your technical uncertainty would
9 diminish by using a phased approach to treat the tank waste. You would apply lessons learned
10 from your pilot-scale facilities when you go to build your full-scale facilities.

11 The next column is cost. The costs of the alternative are shown in ranges to account
12 for the uncertainties. The costs are higher for those alternatives that involve retrieval and
13 treatment of the tank waste and the costs, if you notice that we have parentheses up there or
14 parentheses beside the *ex situ* alternative. Those costs are associated with the repository costs,
15 of what it would cost for us to send our high-level waste to the national geologic repository
16 and I think if you look at this chart, we obviously increased the cost as we go from no
17 treatment to treatment. It is a very brief overview. Oh, I am sorry, that is in billions. I think
18 that, I am sorry.

19 The next item is we want to tell you the basis for identifying the preferred alternative.
20 One, the preferred alternative provides a balance among many key factors which include your
21 short-term and long-term risk, managing and the uncertainties of the tank wastes and the

1 technologies associated with treating those tank wastes, and also the phased implementation
2 meets all regulatory requirements and is consistent with the Tri-Party Agreement.

3 I am going to go very, very briefly through the cesium and strontium capsules. I know
4 everyone here really wants to talk tank waste but this is in the EIS. We have four alternatives
5 associated with the capsules. The first one is no action which means we would leave them in
6 the storage facility they are currently in. The second one is onsite disposal. This is where we
7 would retrieve those capsules out of the storage facility. We would overpack them and put
8 them down a dry well on the site. The third alternative is overpack and ship. It is very
9 similar where you would retrieve the capsules, you would overpack them, and you would ship
10 them to a geologic repository. The fourth alternative is where you would take the capsules
11 and you would put them into the high-level waste fraction and vitrify them with the tank
12 waste.

13 Very briefly for you, the impacts associated with the capsules are very minimal. The
14 only area that we would even see an impact is on long-term impacts on a waste site intruder,
15 and that is if someone came in and drilled down one of the dry wells that we would put cesium
16 in if we were to pick that alternative. The cost associated with these cap, with the alternatives
17 associated with the capsules vary anywhere from the 100 million for the no action, and that is
18 million not billion, and then all the other three alternatives vary between six and seven
19 hundred million dollars. And only the vitrified with the tank waste currently meets all
20 regulatory compliance laws and regulations. Was that quick? facilitator - that was pretty
21 good. audience asked something here - No, there is no preferred alternative on the capsules
22 and that is because DOE is not quite sure if we are going to commercialize and use those

1 capsules for fuel or radiation and radiation processes and we are in the process of determining
2 that.

3 Speaker - Jerry Pollet - I am Jerry Pollet, Heart of America Northwest. We are a
4 public interest group, a member of the Hanford Advisory Board and Tom Carpenter from the
5 Government of Accountability Project and I have asked for the opportunity to present, as was
6 done at the other cities, an alternative you, from public interest community on the EIS in the
7 next several minutes. Many of you were here for the workshop that we put on at the
8 beginning and so I am going to skip a lot of the introductory information about the tank farms
9 and go directly into some of the issues about tank leaks in this EIS and let us start again with
10 this.

11 The EIS assumes that it takes 140 to 250 years for waste leaked from a tank to travel to
12 groundwater. Now that assumption is actually only for the most mobile of radionuclides. It
13 does not include radionuclides that the Department of Energy claims repeatedly over the years
14 and decades are quote "strong sorbed to the soil," down to the soil underneath the tanks when
15 it leaks. Such as plutonium and cesium. Now after it reaches groundwater, the Department of
16 Energy does admit that tank wastes when they reach groundwater will reach the Columbia
17 River and contaminate it within 10 to 25 years. What is missing in the EIS is any reference at
18 all to data from 1992 through 1994 from the T Tank Farm that shows plutonium not strongly
19 sorbed to the soil underneath the tank where it leaked but 100 feet down below the tank, where
20 under this model in this EIS, it does not belong. The Department of Energy's, oh thank you
21 Tom, this is from the 1994 report which you will not find referenced in this EIS. What it
22 shows here is this is surface, this is 10 feet below surface, this is 100 feet below surface and

1 you see a large spike in the plutonium concentration. It does not belong there under the model
2 in this EIS. In fact, in the EIS it says it takes about 2,000 years for plutonium to move to
3 groundwater. This shows it halfway there in the year 1994.

4 Next slide, U.S. DOE's official report on the cesium, that is for those who you walked
5 in after the workshop, the Department of Energy had a contractor that has found extremely
6 radioactive element, cesium-137, at the bottom of a borehole in one tank farm, the only one it
7 has studied so far, that is 125 feet below the surface at very high concentrations which also
8 lead one to assume that it is at high concentrations below that depth closer to groundwater.
9 The official Department of Energy report released February 13, remember 3 months ago, says
10 all current models of the contamination ... excuse me ... assume that the cesium-137 does not
11 migrate to this depth. In other words, this EIS is based on a premise that is blown away by
12 this data and yet the Department of Energy has three sentences saying we found some new
13 data, nothing about the implications of it, three sentences in a 2,000 page document and lightly
14 goes on to continue with the long-held assumption that tank leaks pose little risk to the
15 environment. An assumption that the Department of Energy was told by the U.S. General
16 Counseling Office in 1989 that its methodology and studies had no support for. What are the
17 implications? First implication is the models are grossly wrong right? Secondly, clearly, why
18 won't the Department of Energy say lets say, Let us give you a conservative assumption in
19 presenting the risks here?. instead of using an assumption that is clearly wrong. The EISs
20 claim that the groundwater impacts are moderate from that alternative the ex situ/in situ
21 combination, the one that National Accounting of Sciences says we ought to study. The one
22 that under Secretary of Energy Tom Grumbly says he wants left on the table because the costs

1 are so reasonable and the risks not so high. This EIS says the risks to groundwater from that
2 alternative are moderate, not high, moderate and that there are no restrictions needed on the
3 use of the Columbia River shore lines by the public because of contamination from this
4 alternative. Why? Because the radionuclides will not leach out and reach groundwater but
5 they will. The assumption would lead one to change this if you use the newer data to say that,
6 in fact, the risks from this alternative are severe and that we would have to restrict public
7 usage of the 50-mile stretch of the Columbia River that runs through Hanford with the
8 groundwater contaminated from the tanks would enter the river. The EIS fails to disclose the
9 real risks from any delay. The Department of Ecology has told the Department of Energy that
10 they believe the efforts to privatize building these vitrification plants may lead to failure of the
11 entire program at a loss of a billion dollars in which case we have a massive delay. What is
12 the risk of delay? The risk of delay is not presented honestly to the decision makers or you
13 the public in this Environmental Impact Statement. The EIS should clearly disclose those
14 risks.

15 Now, let me switch to one last subject here before I turn it over to Tom. Explosion
16 risks are not fully disclosed in this Environmental Impact Statement. As with groundwater,
17 this EIS uses long out-of-date figures for the number of tanks that have the potential for a
18 hydrogen gas explosion. The EIS does acknowledge that officially on a watchlist required by
19 Congress called the Wide and Watchlist, on which the department has to list all tanks that have
20 the potential for an uncontrolled release or explosion. That there are 25 tanks that have the
21 possibility of a hydrogen gas explosion. This could be devastating. The EIS, however, relies
22 on a Westinghouse document from June 1995, that uses data saying there are only six tanks

1 with that potential. However, while Westinghouse was writing that document in June of 1995,
2 you already knew that, in fact, there was hydrogen gas present in all 177 tanks at levels that
3 which had not previously been aware of and that for the last year, the Department of Energy
4 has known, there is a hydrogen problem in all 177 tanks and as of December, the Department
5 of Energy has been sitting on a nomination for, to add 25 more of these tanks to the watchlist.
6 In other words, at least 25 more tanks have the potential for an explosion. That means that the
7 risks in this EIS of delay, what happens if you leave waste in a tank for ...

8 Under long-term management, 100 years using DOE's own assumptions really should
9 be about 1/2 of 1 percent. Now you tell me, you answer in your comments if you believe that
10 a risk of a high-level waste tank explosion of 1/2 of 1 percent is an incredible incident and
11 does not need to be addressed. Because this EIS basically says, we do not have to be
12 concerned about the risk of a hydrogen gas explosion. It has been dubbed a beyond design
13 basis accident facilitator ... ok, alright.

14 Let me just conclude then the implications are tremendous. Lastly, as we presented in
15 the workshop, the cost figures in this EIS are entirely skewed to make it look far more
16 reasonable to leave waste behind forever because for the alternatives that turn the waste into
17 glass logs, the Department of Energy has added this incredible, 211 billion dollar hypothetical
18 charge to some of the alternatives which, of course, make them look like ridiculous
19 alternatives but once you remove that dollar figure, low and behold in fact, retrieval of the
20 waste looks reasonable and when you look at the risks, leaving waste behind is a risk no one
21 should dare leave behind to a future generation much less next year. Thank you. Tom
22 Carpenter next.

1 Speaker - Tom Carpenter - Jerry covered a lot of what I was going to say and I will
2 not repeat it. We have a concern about management approach to cleanup of these tanks. We
3 have a concern that over the years, the public had been mislead about the extent of the dangers
4 inherent in these tanks about leaks, about technology being put in place that would tell us what
5 exactly the tanks contain, how much has leaked out and we still have those concerns today. A
6 lot of the same folks who were running the plan years ago are now in charge of tank waste
7 remediation. In the last year, within the tank waste remediation system organization 13 people
8 have left that organization and that is of concern to the Government Accountability Project and
9 it should be of concern to people in the northwest. Several years ago, a couple of Hanford
10 auditors and scientists exposed and disclosed to the public serious problems about management
11 and about environmental cover ups and about lack of Hanford management's implementation
12 of good monitoring and good science. Because of Secretary Hazel O'Leary coming into office
13 and her initiatives to open up the site to public scrutiny and to protect whistleblowers and to
14 involve the public, one of those individuals, Casey Rude, was hired as an experiment by DOE
15 to oversee, to be an environmental specialist in the tank farms. It was a good move. He
16 helped to bring in Rus Geotech who hired John Broder another whistleblower, a geophysicist
17 who wanted the chance to come in and show Hanford that monitoring of tank waste could be
18 done better, cheaper, and more quickly than it had been in the past and, in fact, that is what
19 John Wagoner, Site Manager, has said has happened. With Rus Geotech and with Casey Rude
20 at the helm. What disturbs us is that the experts that DOE has hired, Rus Geotech, told DOE
21 that you have got tank waste with 95 percent certainty leaking towards the groundwater at a
22 much, much higher rate. However, those findings are not being accepted, an outside panel is

1 being put together at a great cost to the public to review which is, in essence, a delay, to
2 review the findings yet 2 weeks ago, the State Department of Ecology put out a report, Review
3 of Groundwater Contamination at the SX Tank Farms," and had this statement in it, "the most
4 probable cause for radioactive technetium-99 in groundwaters is the SX Tank Farm," so we
5 have got radioactive waste in the groundwater at Hanford from the tanks and then, it was not
6 supposed to happen for at least 140 years at the most optimistic about 2,000 years according to
7 the EIS. The public should demand good management at Hanford that the bold experiment
8 undertaken by Hazel O'Leary should continue. Management is a very, very big part of the
9 situation here in the equation if we are going to get good cleanup at Hanford. Thank you.

10 Facilitator - and now comes the time for you to ask questions and maybe if Jerry and
11 Tom could come up here, what I would like is that we will take one question at a time, there is
12 robing microphones around, and we want people to get the microphone before they ask the
13 question, and what I would like to be sure that you ask a question. If you want to make
14 comments, that is going to happen later, so ask a question, direct the question to a specific
15 person, one of these four people up here. Jerry, could you ... so that we can do the questions
16 and answers first and then when you want to make comments, that will be part of the formal
17 comment period. And what I will try to do is go back and forth so that I don't skip these
18 people over here. Of course, sometimes you just have to have that follow up question, like,
19 maybe they did not quite understand your question, so we will be a little bit flexible on that
20 but try to limit at one until we get through everybody because there are quite a few people
21 here. So, and we are running a little late. I have that it is about five till and if people are ok,
22 we can run this for a full 30 minutes but it means the formal comment period starts a little

1 later. If you guys could just kind of shake your head like that is ok or you want it really to
2 start at 8:15 so people can get in and out of there. Anybody care? 8:15 is a good time? I see
3 one head shaking, no one else cares. audience ... ok, well we will see. If the ... will stop at
4 ... OK who wants to go first? There are no questions. Ok right there. ok just one second, let
5 us get a microphone to her. Thank you.

6 Audience - I am Renada Molrey, Director of Research for a small publisher Becks and
7 Press from San Diego County and I would like to know, and I am addressing this question to
8 somebody from DOD please. Has seismic risk been evaluated after ... we are talking about
9 the west here ... which is seismic country and certainly Nevada has earthquakes and certainly
10 the State of Washington has earthquakes because I understand you just had one here. I would
11 like to comment on that and the second part of my question, is please, I was just told that the
12 material for the tanks is carbon steel. Do you feel that there is any material available today
13 which would have structural integrity taking it down the road, you know, you are talking
14 about years and years and years, or are you just assuming that the material will be strong
15 enough, leak-proof enough, because you just have to take a container of water, you know, in a
16 container and eventually it will leak a little bit. Thank you.

17 Facilitator - This is for Energy or Ecology either one.

18 Speaker - ~~man speaking~~ - On the seismic issue, yes we do evaluate a seismic event in
19 the EIS for all of the alternatives. It is in there and the details, the summary is in the Volume
20 1 with the details in the associated appendices. I can not give you exact places, I would have
21 to look it up for you. speaker - another man There is one seismic event that is carried up
22 into the summary that is in the long-term, that it is accidents under long-term impacts and for

1 that event, if you do not do anything to the tanks, that is under the no action alternatives, some
2 time in the future there is a possibility that those abandoned tanks would collapse and that
3 would spray up what is left in them into the air and that has a pretty substantial risk. speaker
4 - Carolyn - and let us remember that this alternative is not our preferred alternative, it is an
5 alternative where we evaluate doing nothing except for replacing the double-shell tanks twice
6 during a 100-year period. man speaker - under the other alternatives where the waste is
7 retrieved and something is put into the abandoned tanks to stabilize them that risk is greatly
8 diminished. It shows up as zero in our analysis.

9 Facilitator - ok? man speaker - there was another half to that facilitator - oh the ...
10 Carolyn - I am not quite sure of how to respond to your question because the tanks are
11 designed using carbon steel and we have had some deterioration of the single-shell tanks as
12 Jerry had mentioned earlier. The reason that we are doing this Environmental Impact
13 Statement is to get on with retrieving and treating those tank wastes so we can get it out so we
14 do not have any more problems in the future but there is not a whole lot we can do with it now
15 because we are not building any new tanks out there. end question for Renada Molrey -
16 thank you.

17 Facilitator - Do we have another question? Back here in the corner.

18 Audience - facilitator - I am not sure your mike is on, is that on? Oh, it is now.
19 Man speaking. It appears to me from following this for several years, that virtually all of the
20 initiatives for making this situation significantly better come from public interest organizations
21 and that the government agencies seem to be the ones that drag their feet and always behind
22 the curb. Am I wrong in this appraisal. Facilitator - Who are you addressing that question

1 to? Who ever wants to ... Well let us have one from government and one from the public
2 interest groups answer to that.

3 Carolyn Haass - Yea, but I also have facilitator - if we have technical experts, yes
4 we have technical experts you know, policy experts fine. We are not a technical expert for
5 everything.

6 Chris Bader Yes my name is Chris Bader and I am the Deputy to the Manager that is
7 responsible for the tank waste program within DOE. I sort of feel like I am responding to a
8 "when did I stop beating my wife question", but we are always interested in what the public
9 has to say and yes there have been a lot of initiatives that have been brought forward by the
10 public. I think the question before us this evening is to review the alternatives that have been
11 presented, to see if you agree, disagree with the preferred alternative which is to get on with
12 the removal of the waste and so that we can get a record of decision here very quickly and get
13 on with it.

14 Facilitator - Tom - Tom - Well, having been in this for quite a few years and Jerry
15 longer than me, I think we have seen quite a few changes within the Department of Energy's
16 attitude and Hanford's attitude toward public involvement for the better and, however, I think
17 some of the old attitudes persist and the fact that we are able to get some air time up here, I
18 think is a good sign. I think we also rely upon the public to come out and flex their muscle a
19 little bit and show their opinions so that we can continue to monitor the situation and provide
20 commentary from the sidelines so to speak but in my opinion, our oversight in helping workers
21 out there who tell us what is going on and help keeping that flow of information going on is
22 very significant. We saw 50 years of operation at Hanford in secrecy. We saw what it got us.

1 It got us several hundred million gallons of radioactive waste disposed of in a willy-nilly
2 manner that no one knows what to do with really and it is going to cost minimum to ... up to
3 20 to 30 billions dollars and perhaps as much as 260 billion dollars just to deal with those
4 tanks. So it certainly is necessary to have a new approach and I appreciate your comment
5 though and consider it positive for us.

6 Facilitator - Ok, another question? ... on this side man - yea we do ok, but I will get
7 to you though

8 Speaker - woman My question is for Carolyn Haass, I think that is how you say that
9 name? Ok, my question is just a clarifier. Your preferred action is your phased
10 implementation, and in the phased implementation are you doing any separating of the waste?

11 Carolyn Haass - ... hold on ... facilitator he just stepped a second away In the
12 phased implementation, we will be doing a process similar to our intermediate separations
13 alternative where we will separate out the cesium and strontium. However, we are also going
14 to, in the phased implementation alternative, remove the technium as well as the transuranic
15 elements from the waste.

16 Speaker - woman - OK.

17 Speaker - man - In lay language maybe cesium and strontium, I am sorry, just cesium
18 and strontium are extremely hot with short, shorter half lives so they give off a lot of
19 radioactivity for the first 300 years and that is, I guess, the rationale so that your ... there is
20 one alternative in here called no separation which means you just put it all in the glass melter
21 together and make glass logs and one that has high-tech far more separation than this
22 alternative.

1 Facilitator - ok, do you have a question

2 Speaker - Woman - It just seemed to me that the phased implementation was the very
3 best thing to do someday, somewhere, sometime and I find that troubling. There is no
4 chronology of this happening that I can see and the second thing is I would like the DOE to
5 ask the fumbling money kind of question, they have not responded to the slight of hand
6 billions of financing that I think they should respond to. facilitator - so are you asking two
7 questions or was one question? right, the first question the other one sounds so attractive
8 but it does not say where, when so you or if ever or somewhere or sometime? so your
9 question is clarification of what phase means is that right? yes, yes, and then the second
10 question is what is with the money, ok.

11 Carolyn Haass - I can talk to the schedule of phased implementation when we get to
12 the money side, I will refer that to Chris Bader. On the schedule for phased implementation,
13 we have Tri-Party Agreement milestones associated with that and the start of hot operations of
14 the phase 1 pilot scale facilities is set for December 2002 and that is 2 years in advance of
15 what we were going to do in the Tri-Party agreement prior, I mean prior to renegotiating the
16 Tri-Party Agreement. It is a small scale facility where you can do small amounts of waste and
17 understand the waste you have and help yourself with the uncertainties of the waste as well as
18 the technology so when you build your full-scale facility you have better data and you may
19 have less problems.

20 Chris Bader - The Tri-Party Agreements now says get all the waste out of the tanks by
21 the year 2028 which answers part of your question. We are talking small-scale pilot here and
22 so while Carolyn says 2 years earlier and that is something to cheer about, the fact of the

matter is that these plants are so much smaller than the Department of Energy had originally committed to in the Tri-Party Agreement that, and we just went through this couple of hours ago in front of a report (the three of us), basically saying the year 2010 near 2010 under the phased implementation alternative, you only have removed and processed into glass half as much high-level waste and low-activity portion as you would have under the full-scale plant committed to in the Tri-Party Agreement before the last time waltzed into the state and asked to change it.

Facilitator are we going to discontinue this discussion. Let us go to the money issue.

Chris Bader. Ok there are a couple of money issues and I will try to respond to both what I think that they are in anticipation and if I am not hitting the mark you tell me. First of all the cost that are in the Environmental Impact Statement are relative to the repository. The repository costs are extremely high and in the area that we are dealing with treating the waste which was the last four categories, one of those alternatives got up to I think 211 billion dollars for storage. The reason that, that has not been the preferred alternative is because at the current policy in the Nuclear Policy Act that we will have a repository and we are spending a lot of money on this repository today. Characterizing Yucca Mountain, there is over a half a billion dollars a year being spent on this, all of the public utilities who have nuclear plants are all being taxed to fund some kind of repository to put their spent fuel in so if we go to a no separations alternative, this would require that all of the waste that is vitrified and all these logs that we produce, these glass logs, will all be classified as high level and if we are required to put that into a repository it will not fit. We would have to build multiple repositories so that is why we have chosen a separation alternative that is current technology

1 that will reduce the amount of radionuclides that will have to go to the repository. There in
2 lies, that area, I do not know if that was precisely on the mark but that is the explanation
3 behind it. The second area on the slide of hand may have to do with the privatization initiative
4 which we are moving into which is the how we get this done. The EIS addresses what is to be
5 done. The what is that we will take 99 percent of the waste out of tank, we are going to
6 immobilize it, we are going to separate it into two fractions, one will go here, one will go
7 there. The next part of this is the how we are going to do it and we have selected a strategy
8 called privatization and the privatization requires that when we go out and contract to private
9 companies and we now have two that submitted bids and we are well along on this, are British
10 Nuclear Fuels Limited along with Lockheed Martin, two respectable companies who will invest
11 their own money and build their own plants to vitrify this is ... do the processing and vitrify
12 the waste. What they will then do is ... is then we will buy the product, we will buy the
13 products so they have the up front investment, they get the financing from their insurance
14 companies or from banks or from whoever will loan on the money or their own financing and
15 then we will pay them for product. The slide of hand perhaps that you may be referring to is
16 that we are setting aside the money in case, now in case we have some kind of termination
17 liability in event that would happen but most importantly is that we are obligated to cover that
18 obligation. Now had we not gone to privatization, we would be funding an offsite contractor
19 to do this work. We would provide the funding. In this case, we are just putting it over in a
20 reserve account in event that it would be needed and ultimately it will pay for the logs.

21 Facilitator - OK we have a question right here.

1 Man speaking ... this is ... facilitator - is this going to be brief? from the General
2 Accounting Office I believe last week. Response to Congress. Question to the General
3 Accounting Office, Has DOE demonstrated that privatizing the cleanup of the tank farms will
4 reduce the overall life cycle costs to the taxpayer? Response from the General Accounting
5 Office - as our work has demonstrated, considerable uncertainty exists about the contents of
6 the tanks and effectiveness of many of the technologies needed to be successful. It is possible
7 that the risk premium demanded by the ... a private entity to cover these uncertainties could
8 exceed the efficiency gains that might be realized by privatization.

9 Facilitator - ok let us move on to the next question.

10 Audience - man - This is a question for Mr. Tallent. Geoff. This is related directly
11 to what Jerry was saying earlier. If the draft EIS is built on the assumption, the minimum
12 time for the contamination to reach the Columbia is 140 years. Yet, you have data which
13 indicates that cesium is migrating much more quickly and may already be in the groundwater.
14 Does not that mean that essentially the whole EIS is invalidated and it has no bearing on the
15 current problem.

16 Geoff Tallent - Well, in a short answer, no it does not mean the entire EIS is
17 invalidated. This information does cause us to question the assumptions that we used in our
18 models to some extent. I need to draw a distinction, and I hope it is a clear distinction, and
19 please tell me if it is not making entire sense, between the information about how the tanks
20 have already leaked and our projections for the future, the conditions in the past are very
21 different than what we are assuming in our long-term risk assessment. There is a lot more
22 liquids in the tanks under ... in the past, under our assumptions, you have retrieved many of

1 the free-standing liquids to the extent you can so there is less potential liquid to drive it. So
2 there are different conditions, but there is new information to suggest this moves differently.
3 We are going to incorporate that into the EIS. We do not know how that would settle out, but
4 we suspect it will not change our assumptions to make it look like that groundwater moves in
5 30 years but it may increase/decrease the travel time in our EIS.

6 Man speaking - does Tom or Jerry want to comment to that?

7 My comment is that the vadose zone monitoring contamination moving to the
8 groundwater at the rate it is blows away the entire EIS and validates it that the EIS should be
9 put off till that time they can incorporate this new information, figure out what it means, what
10 impact they are having on the clean up ... to clean up ... to have on that vadose zone
11 contamination in the Columbia River.

12 Facilitator - ok Carolyn Haass ... also has a response from DOE on this. Mike
13 Thompson who is our groundwater manager for the site. This is not going to be a long
14 lecture, right? Mike Thompson - No, I hope not. Not very long. I would like to put some
15 caution to some of things that you have seen and heard today in terms of the vadose zone
16 results that we have been getting. There has been a fair amount of debate in the technical
17 community at Hanford about what this data is, what it means, how it can be interpreted. I
18 think the issue results from there are materials that have been presented like you have seen
19 today which show interpretations of the data but those interpretations do not come with a well-
20 described description of the analysis that is behind those interpretations. I have been trying to
21 throw some caution to using these interpretations. For instance, the work that Mr. Carpenter
22 put up on the board in 3-D graphics shows that there is lots of cesium in the tanks farms and it

1 .. at the bottom at about 125 feet deep as far as these four holes go, there is massive levels of
2 contamination and we do not know what is between 125 feet below the table. I will not argue
3 that the contractor, Ruis, is finding cesium in these dry wells. That is not an argument. He is
4 finding cesium in these dry wells. I trust Mr. Broder, I have worked with Mr. Broder for
5 years. The caution that I would bring forth is that without the kind of deep well throughout,
6 well reviewed interpretation and analysis of the interpretation, I do not know if all the
7 conceptual models have been addressed. The problem that I see is that what we have and if I
8 can use a viewgraph and I am sorry I do not have 3-D color graphics, I just have something
9 that I drew, is the number of single-shell tanks many of which are leaking and around those
10 single-shell tanks we have what we call dry wells. Now in normal environmental monitoring
11 when you put a well in, that well has sealing materials between the casing and the formation to
12 prevent migration of the contaminates up and down the borehole. These dry wells do not have
13 that and the reason why they do not have that is the sealing material would make it impossible
14 to use simulation techniques to determine whether the gamma radionuclides are moving or not
15 so what we have are unsealed metal pipes in the ground that have an annulist that is a space
16 between the pipe and the ground. They are driven through levels of fairly high contamination,
17 they are in areas that have been shown just north of there to have received flooding. There
18 has been times when we have had to bail these things out and the technique they used only
19 monitors about the size of about a beachball around these dry wells so the interpretation you
20 see is something that is interpreted between these. So if there is contamination, if there is
21 some mechanism moving contamination down these conduits, you have a borehole effective
22 and it is not represented of as cesium moving throughout the system. In addition to that, the

1 movement of radionuclides in the Hanford system, as well as all around the country, has been
2 studied for 50 years and is fairly well known. We have got studies in laboratory tests, we
3 know what the retention factors are on these, we have other things onsite that we have
4 investigated. Cribs, ponds, ditches, injection wells, those sorts of things, and generally what
5 we find is that we have things that do not move very far and that is things like cobalt, cesium,
6 americium, plutonium. Some of those things are complex, the plutonium and americium can
7 be complex by organics and move further and it is also subject to changes in pH. But what we
8 know is that cesium and cobalt generally do not move very far. Strontium does not move
9 very far. Things like tritium, ruthenium go with the water wherever it goes and that has been
10 very well studied and known on the site. Facilitator - Before he goes on, if its ok with
11 people, I do not want to, this is a question and answer period and this should be their
12 opportunity to ask questions. Ok. I do not want to I have two more sentences and that is
13 just about it. Ok, great. We have one location on the site where we dumped 8 million
14 gallons of radioactive liquid in a borehole into the groundwater. That has been done 50 years
15 ago. That has not migrated significantly over 50 years. There is plutonium in it, cesium in it,
16 there is strontium in it. Under the Tri-Party Agreement, we were required to do a pump and
17 treat for that. Because those materials were so tightly bound to the soil, after pumping a
18 million gallons out of that pump and treat system, the regulators told us to turn it off because
19 it was ineffective. The stuff was not moving when we were pumping against it. In the
20 100 Areas, we are digging up soil, we have done soil wash and tests. We found that we had
21 to abrade the mineral grains down about 50 percent to get the cesium off of it so there is a lot

1 of other data that you also need to bring to the table when you talk about the movement of
2 cesium or other contaminants in the soils at Hanford.

3 Facilitator - Ok you will be here later so that we can get back to this if people want to
4 hear more information right? Right now, we are 20 after by my watch and my watch rules.
5 Do you guys want to start the public comment period now so that ... but we really do not have
6 all that many people. We have six, looks like that six that signed up and I assume some
7 people may want to give oral testimony even though they did not sign up. So there were a
8 couple of questions. Do you want to go on with it? What I want to do is find out if it is ok to
9 go on for a little bit longer. One person had to leave early, leave quickly, so that is my
10 question. Keep going? Ok

11 Question - This is for you Mr. Tallent. I was just wondering again as members of the
12 lay public, we also can not know all the information that goes into the creation of the matrix
13 that you created on impact and I was just wondering, real quickly, how reliable do you really
14 think these figures are?

15 Answer - There is a 10,000 year risk assessment. How reliable can it be. I think you
16 largely need to use these numbers to show trends. We think these show how these different
17 alternatives stack up against each other and they give you a sense of the type of impacts you
18 will experience but, yea I do not think you can say with certainty, 10,000 years from now that
19 one of these numbers you see here will actually come true. The short-term impacts those are
20 lot more predictable and a lot easier to gauge. For instance, the first column on the matrix
21 occupational accidents, those are things like falls from ladders, scaffolding. Those are taken
22 out of laborer's statistics. You can take similar industries and say ... and compare it with

1 what we are planning to do if you just have a similar number of workers and similar
2 circumstances you can expect statistically a certain number of accidents.

3 Answer - And you can see the trend on that as you go from no action to actually
4 treating the waste, you know the more people you employ, the more statistically you are going
5 to have more accidents if you fall off a ladder or fall of a scaffolding and it does show that
6 trend.

7 Answer - I think we should not be talking about falling off the ladders as this is not
8 what people are concerned about. So I mean, if you look at fatal cancers, then you are talking
9 about big questions about risks. Risks of explosion. As I said before, this EIS says something
10 is an incredible event which does not take into account the fact that twice in the last year,
11 workers ignored the so-called administrative controls and did things that the Department of
12 Energy admitted could have blown up a tank. They say that is a one in a million risk.

13 Facilitator - Ok do we have any questions over here? Ok right here.

14 Question - Mr. Tallent, this question is for you. The man that was speaking before
15 you sort of implied that it is likely that Mr. Broder did find cesium in the vadose zone. Given
16 that likelihood, what is meant will the status mean what is in the final EIS.

17 Answer - Yes I really did not touch on that one. I had the earlier question also that
18 was not completely clear I realize that. I think this information was made available in
19 December and was really published in February and our EIS went out in April and if you look
20 at the size of this EIS, we did not have much chance to respond to it. We are taking a look at
21 it right now because it could impact the way we looked at our long-term risk and we will see
22 what that means and we are going to incorporate it into the EIS to the extent we feel we

1 should. That is still very uncertain. We have got some of our technical groundwater folks
2 who are working on it..

3 Question - Is the deadline more important than actually looking at what could be a very
4 serious problem?

5 Answer - Well, you have to balance a couple of factors here. This EIS is, again I
6 remind you, is dealing with what is in the tanks right now. And we are working very
7 aggressively to get on with getting that waste out of the tanks so these future leaks do not
8 continue. The types of leaks which you saw on those slides earlier. And so you have to
9 evaluate whether you stop working towards getting that waste out to study what has already
10 leaked out or not and that is the balance we are going to try to strike.

11 Facilitator - Other questions? The woman back here.

12 Question - Yes. I just wanted to know on the record, how many of the whistleblowers
13 are actually working there and what power do they have and how many of the GAO
14 recommendations have actually been incorporated into the whole process.

15 Answer - There probably is three less whistleblowers working there now than a couple
16 of months ago because of some recent changes in management and what not. Unfortunately
17 Secretary O'Leary came to the site and right before she got there, three people had lost their
18 jobs. But in terms of the Tank Waste Remediation System, you have got basically two, Casey
19 Rude and John Broder, who are well known as whistleblowers and you have got others who
20 are calling me up and blowing the whistle obviously discreetly within the same organization.
21 Chris Bader is one ... no he is not ... anyway there are ... whether or not the GAO
22 recommendations are being fully implemented I would have to go back and look at that but to

1 a great extent what the GAO found to be a problem was the failure of Hanford management to
2 use state-of-the-art technology to do vadose zone monitoring. That did change and they are
3 using that technology now. That is the technology that Rus Geotech is using and I find it
4 curious that after 30 years of, you know, scientists at Hanford saying the waste does not
5 migrate, there was no questioning of that data, no one said, "We got a similar team of experts
6 to make sure that is right". It is only when someone said, something embarrassing, which is
7 this is migrating, that suddenly they say, Well, there is probably other explanations for why it
8 is migrating, and I want to re-emphasize that plutonium was found in a another tank farm,
9 100 feet down, in a borehole that was dug to prevent the kind of contamination that Mike
10 Thompson was referring to that could be pushed down there from well digging or whatever
11 and secondly that the State Department of Ecology has found technetium-99 in the
12 groundwater attributable to the tanks that kind of blows away, in my opinion, all denials that
13 this waste is not migrating. It clearly is migrating and what we are hearing now from Mr.
14 Thompson and Mr. Bader is basically a last desperate effort, No, No, we are going to evaluate
15 this in the future, by the way, long after it will be of any use in this EIS. I think that is a
16 mistake. I think there needs to be a crash program to evaluate it and incorporate it now. But
17 the whistleblowers are struggling to survive at the Hanford Site.

18 Facilitator - Do we have other questions or we about ready to move to public
19 comment. The man in the front. Do we have a mike over here?

20 Question - I am Robert Sanders, and I have worked at Hanford three times, I used to
21 work for Stanford Excelsator with Dr. Pinopski and introduced probably analysis in Poleras
22 program and have many friends from Air Jet that are senior managers at Westinghouse. I

1 think one of the problems we have in assessing the Environmental Impact Statement on
2 disposal techniques is the uncertainty associated with the contents of the tanks. The tanks are
3 difficult to sample, there are risks associated with them, the ports of entry are small, that I
4 believe that a great clarification of the validity of the options would occur if we had a
5 statistically ... had a better statistical definition of the contents of the tanks and this involves
6 many things. It involves the coefficient of radiation for each of the constituencies in the tanks.
7 It involves a sampling, a volumetric sampling, the confidence level that the sampling is
8 expressed at and I would raise this general question that I believe a general comment would be
9 that the validity of any disposal technique is dependent upon the minimization of the
10 uncertainties associated with the throughput into the process. I would therefore raise the
11 question, I think I raised this question once before, why the contents of the tanks is not legally
12 required to be a matter of public record. That is continually refined as better techniques
13 develop, as better sampling densities develop. I fail to see how any private contractor can
14 validly bid a privatization of a disposal technique with the uncertainty that is currently, I
15 believe, is associated with the throughput at the ... process. I would like to direct that to Carl,
16 I believe. Facilitator - so could you just summar ... get that on the record later ... the
17 summary of that question is Why tank waste not public record? Why are the tank waste,
18 wastes not public record and reviewed with great scrutiny from a statistical and sampling
19 standpoint as to their attendant uncertainty? Ok.

20 Answer - Let me respond to that please. The tank wastes are public record and if you
21 can give us your name, we can get you what the address is on the Internet. Substantial amount
22 of progress has been made on characterization, particularly since last summer when we

1 brought on two new pieces of equipment as of the end of March and I do not have the end of
2 April numbers but we did make some additional progress. We had over a 123 of the tanks
3 that we had taken samples from, 274 samples have been taken to date. We have modeled each
4 one of the tanks based upon historical records which we know are sketch in some cases but we
5 are able to now bring up the actual samples that are taken and compare it and we are getting
6 pretty good coalitions, some surprises, more iron, more chromium than what we previously
7 thought so I think the answer is, is that we are getting on with it in terms of understanding
8 what is in those tanks. Record is public and we will make that available to you and with
9 respect to the disposal program, the tanks that will be used for the first phase have now been
10 sampled and those samples are within the envelope that have been ... that were part of the
11 request for proposal that the two suppliers responded to so I think your remarks are right on
12 and I think we are doing exactly that.

13 Facilitator - Ok, we are running late which is fine. I would like to start the public
14 comment period unless someone is feeling really uncomfortable about that. We have ... we
15 were hoping to get out of here around 9:00 and we have two, four, six, seven people and if we
16 were talking about 5 minutes that is about 35 minutes. Now I do not know, not being to these
17 meetings whether 5 minutes is going to be enough for people, but remember you can submit
18 your written comments as well, written comments have the same impact as oral comments so
19 5 minutes sounds ok to people. I would list them in the order that people signed up. So when
20 I call your name, you need to step forward to one of the microphones, I don't know ...

21 Facilitator - ... record. Everyone will get an opportunity whether they are on this list
22 or not. We will just get names afterwards. So Gary I guess your first. Gary - skip me ..

1 Skip you? Ok how about, great thanks. Jessica Dyson. Oh good you wanted to get out of
2 here early too didn't you?

3 Jessica Dyson - Can you hear me? Name is Jessica Dyson, 10306 Meridian Avenue
4 North, Apt. 709, Seattle, Washington 98133. Good job. Thank you. Ok. First I would like
5 to open with just saying parking is ridiculous here. I do not know if anyone else had the
6 problem so that may be a concern for next public meeting if there is another one. It was
7 insane. On to the matter at hand though.

8 Groundwater and the contamination of it is of the utmost importance to the public and
9 its safety. In the past, you guys have reluctantly but finely admitted the tanks do in fact leak
10 at Hanford and to ensure ... to keep the public calm, you ensured us that it did not migrate,
11 that the contamination would not get into our drinking water. But what we are finding out is
12 that is not true. This new data showing contamination dangerously close to our groundwater
13 would not even been told to us at this point if it was left up to the Department of Energy.
14 This is vital information for the public to have and it does have significant impacts on the
15 public. Almost all of our agriculture in Washington comes from eastern Washington and most
16 of the land surrounding the Columbia River is irrigated with the rivers water. Any radiation
17 in the groundwater will make it to the river and possibly to our dinner tables. It is your
18 responsibility to account for all the risks to the public and be as conservative in your
19 assumptions as possible to protect our communities. It is time to stop being in denial and start
20 making public safety your utmost concern. In doing so, you must follow the Tri-Party
21 Agreement and vitrify all the waste in the tank and it is not acceptable to leave any waste in
22 the tank because that could pose a danger to the public in the future. That is it.

1 Facilitator - Thank you very much. Can I have just ... no, that is Mary Hanson?
2 man in audience said something ... no, can we flip it this way?

3 Mary Hanson - My name is ... Is this good? or excuse me, ok. My name is Mary
4 Hanson, I live at 4010 Whitman Avenue North, Seattle, Washington 98103 and I wanted first
5 to thank everyone for coming here. If you think about stress from 0 to 10, you know we all
6 have been sitting calmly sitting here as far as I am concerned in 10 mode, alarm mode for this
7 whole time and I just want to thank everybody for putting up with the pain of this. But I think
8 that sacrifice is for a good reason and that is by our being here and all of you putting up with
9 the pain of Jerry, and all of you really, putting up with the pain of trying to solve this problem
10 that we are preventing a much worse pain in form of painful death of radioactivity getting
11 where it definitely must not go in the future. So that is just a little reality check there.

12 I certainly feel that as a lay person, I have every right to the most conservative
13 principles being used in this situation and I certainly, personally and I think I stand for others
14 here, do not consider cost to be important. Money can be made, the environment can not be
15 remade. Now the total defense budget for this country is somewhere around 260 billion
16 dollars per year. That is a lot of waste. In my opinion, that it is throwing money at defense.
17 Most of it. Playing games, testing this and that and so forth. This is a real problem. This is
18 a real security problem and if it were up to me I would put probably half the defense budget
19 on it. So I do not consider money to be something that you can quote, "balance against
20 health." I do not think money is something you balance against the environment. You can not
21 balance a nonrenewable resource like the environment against a renewable resource like
22 money. So I am very strongly in favor that this be done in the economic, in a conservative

1 manner, economically speaking but I certainly feel that if the public really was as aware as
2 everyone in this room is of what the issues are, they would vote very high amounts of money
3 to deal with this threat to our security. Thank you.

4 Facilitator - Ok Tiffany Devoy.

5 Tiffany Devoy - Can you hear me? I have to agree with what was just said about ...
6 facilitator - please state your name and address. Oh I am sorry. Tiffany Devoy, 6000
7 Greenwood Avenue North, Seattle 98103 and I wanted to definitely concur with what was just
8 said regarding money. I think when you are talking about 200 plus billion dollars a year going
9 to defense, then 200 billion dollars total to take care of what will be with us for hundreds of
10 thousands of years is not that high of a price tag. I also would like to say that I do think the
11 Tri-Party Agreement should be followed in this case and actually in most cases and it seems
12 odd that there is always someone trying to get out of it. It was signed and I think it should be
13 followed. I think that they need to vitrify as much waste as possible and to leave as little
14 waste behind as possible and I do not think that is an unrealistic expectation. There are
15 177 tanks and I do not even remember what was quoted to me as to how many gallons each
16 those tanks were but it is pretty amazing and to think of all that waste concentrated and to just
17 leave it there, I know that is not your preferred alternative, but I think some of your
18 alternatives are not that much better. So vitrify it as much as possible, leave as little behind as
19 possible, and follow the Tri-Party Agreement. That is about it.

20 Facilitator - Thank you. Jennifer Moore.

21 Jennifer Moore - I am Jennifer Moore, 914 East Jefferson, Seattle 98122. I just want
22 to say the thing I find the most disturbing about this EIS, well one of the things I find the most

1 disturbing about this EIS, is the fact that they list not one, not two, but quite a few alternatives
2 which violate the Tri-Party Agreement and other laws and standards. We are dealing with a
3 ... laws which were put so that the public would be protected and that this clean up would
4 keep going at a standard that eventually can ensure that people can live around this area and
5 use the drinking water and basically not live in fear of dying of fatal cancer from being
6 exposed to nuclear waste. The fact the Department of Energy is listing these as viable
7 alternatives, viable options indicates that they do not seem to take the public safety into
8 account very much and somewhat see themselves as above the law which they themselves
9 entered into. I think the Tri-Party Agreement should adhere to be ... I mean, excuse me, I
10 think the Department of Energy should adhere to the Tri-Party Agreement which they entered
11 into willingly.

12 Facilitator - Sidney Stock

13 Sidney Stock - Sidney Stock, 6023 Hazelwood Lane Southeast, Bellevue 98006. In
14 1992, as part of a Physicians for Social Responsibility group, we toured Hanford Nuclear
15 Reservation and I asked the question of the Westinghouse people who were directing the tour.
16 I said in view of the history of the government and the contractors lying to us over a 50-year
17 period and conducting atrocities, the release of huge amounts of radioactive iodine, the
18 building of tens of thousands of weapons that were unnecessary for any reasonable defense,
19 etc., what kind of assurance do I have that what I am about to see and hear is going to be any
20 different that what has gone on in the past. And so the Westinghouse man said, Yes, it is true
21 what you say and we have to live in the same world and we learned our lesson and you will
22 just have to judge. And so we took the tour and were reassured about all the things that were

1 being done and I came back feeling rather reassured and more comfortable and then we had a
2 meeting and the state environmental impact person, I am not sure of the person of the state
3 agency that is charge of this, who had taken the tour with us began to tell us all of the things
4 the Westinghouse person had said that were not true. And so then my question to one of the
5 other people was, Why did not he say this on the tour? and the answer was, Well Ecology
6 gets most of its funding from the Department of Energy and that sounded kind of reasonable
7 so we are faced with a situation as lay people who know very little about what goes on and
8 who should we believe. And as I think of some of the particular things that bother me and I
9 will ramble a little bit, the fact that it is called the Department of Energy would more
10 accurately be called the Department of Bomb Building. It is ... we heard about disposal. It is
11 not going to be disposed of, it is going to be with us forever. We talked ... heard about safe
12 disposal. There is no safe way of disposing it. Let us be honest. There are safer ways and
13 less safe ways. We heard about respectable corporations such as Martin Marietta. Boeing,
14 and Westinghouse, and Martin Marietta have all been found guilty of criminal fraud time and
15 time and time again, General Electric, Westinghouse, etc., and for me they are not respectable
16 corporations. They have to be watched at all times. Some of the people referred to defense.
17 I am not real worried about the Canadians or the Mexicans. I do not think we have great
18 needs for defense. We have a military industrial complex is ... has been driven by corporate
19 needs and continues to be driven by corporate needs and we could cut that hugely and come up
20 with all kinds of money for social needs and it was kind of interesting after I gave a somewhat
21 similar pitch at the previous meeting. One of the people who was assigned, who was a
22 scientist, who had worked at Hanford for many years, felt personally ... he had dedicated

1 many years to this issue and felt that he had been sincere and my response to him was, I really
2 do not know what you individually had done. I can not comment on that. I do know that
3 there have been people who have taken great risks and have opposed what went on there called
4 whistleblowers and that it seems like it is very, very difficult to cooperate with what has been
5 going on and still maintain one's integrity. Maybe possible and so I would urge again those
6 who work there to remember that your first responsibility is as a human being to yourself, to
7 your families, to all of humanity and secondly to your job and so when it comes to making a
8 judgement on my part with limited information I will continue, hopefully not forever, to trust
9 what part of American and Physicians for Social Responsibility and the other public interest
10 groups say in criticism of what goes on rather than the information that I am receiving from
11 the government.

12 Facilitator - Thank you. Barbara Zipetta? Well, this is my first, so ...

13 Barbara Zipetta - Barbara Zipetta, 1937 25th East, Seattle, Washington 98112.

14 I lived in Richland and I had the ... in the 40's or 50's or late 40's early 50's and I had to
15 listen to my mother come home every night. She worked in the decontamination lab where
16 they cleaned up nuclear waste and she had a very lonely job. It was kind of like a laundry
17 worker and she was always complaining because she was not able to follow the rules and as
18 far as I can tell, everybody there except Rus Knight really took short cuts and I also happen to
19 know the guy that designed the structural steel work for Hanford and he is best structural steel
20 designer in the whole northwest. He did the steel design for the stadium at the UW, the one
21 that did not fall down, and he told my mother that he is a very conservative, right-wing
22 republican. He told my mother that he was very upset because they had paid him top price for

1 his design and then they cut his specifications in half. Now I know Westinghouse/General
2 Electric and these are corporate criminals. I own some GE stock just to see what they are
3 doing but, one or two shares - my mother inherited it and I kept one share to just keep track of
4 her, track of it for her, she is dead of course now from pancreatic cancer which we never had
5 in our family - but the thing that really bothers me is the whistleblowers still are not in charge
6 and there is no way to design, oversight without objective information. I finally got an answer
7 to my question about the International Atomic Energy Agency and its oversight. I got a call
8 back from Washington D.C. and the guy there at DOE said, "Well there is no written
9 document, and we were told that there had been some cooperation with the IEAE" ... agency
10 set up basic standards because I want to ask everybody in this room, How many people saw
11 the 60-minute show about Chernobyl? Last week. 60, that was like 100 hydrogen bombs.
12 Now it is really nice to look at it over in Russia, but you know we have got exactly that same
13 possibility here if we do not straighten up and anybody thinks that we are going to get our
14 national security by finding that the CIA and the DOD when we are sitting on it and we are
15 going to blow ourselves up. That, I mean, we can not play these games anymore. Everybody
16 in this room knows that if you got a bookkeeper that is hiding funds, you can find out pretty
17 easily. I mean, anybody can read books that learns how to add. And for people in this room,
18 not to have the actual documents, not to have the actual data in and, I mean, in an objective
19 way, not a subjective way, it should not be a different consultant every time you do not get the
20 right answer you get a different consultant. This is not a PR game and until we stop doing this
21 as a PR game we are not going to reach any ... we are not going to get the facts to begin to get
22 the solutions on them. I am really tired of coming to these meetings. You know, I thought

1 my mother was exaggerating but she was not and I do not know if anybody knows who
2 Russell Knight was but I think if he was still alive somebody should talk to him.

3 Facilitator - Ok. Henry Perry? and he is the last one on our list other than Jerry so if
4 anybody else wants to sign up.

5 Henry Perry - Well, I would be saying the same sort of thing. Facilitator - please
6 state your name and address ... Oh. Henry Perry, 3215 East Morely Way, Seattle 98112.
7 I really kind of put this in a form of a question. Considering that the DOE is representing us,
8 the public, and is playing with more than fire in this situation with the possibility of placing
9 the environment of the entire Pacific Northwest at risk, Can there be any question that the
10 EIS, that it prepares, should be prepared on the basis of the worst-case scenario and certainly
11 in accordance with the Tri-Party Agreement previously agreed to.

12 Facilitator - Jerry? Anyone else that wants to give comment?

13 Jerry Pollet - I have some materials that I am going to hand in to supplement the
14 materials that I gave. Jerry Pollet, representing Heart of America Northwest and I am going
15 to hand in some materials to supplement materials that I handed in at the prior hearing.

16 First, I am going to break this up into some distinct segments, given that I have already
17 testified and I want to add to some of these areas and respond to some things that were said I
18 guess in re-buttle by the Department of Energy. The first point is I want to re-iterate
19 something that I did not say on the record but I want to make sure is on the record. The
20 Department of Energy's presentation tonight and at prior meetings and in these materials show
21 ... say ... claim that this unproven technology of so-called in situ vitrification, sticking
22 electrodes into the ground and melting the ground into glass. The presentation said that this

1 would comply with Washington State law. Nothing could be further from the truth.

2 Washington State first off has in the model toxic control act and our dangerous waste
3 regulations a presumption that we will favor removal. That is the law. Leaving it in place
4 when you have an alternative of removal and retrieval is never allowable under Washington
5 State law. We have a set of priorities for dealing with waste. Hanford does not get to make
6 an exception for itself although it sure does try most of the time.

7 Secondly, in regards to the cost issues, the EIS should clearly compare the cost of the
8 phased implementation Tri-Party Agreement path against the risks and costs of the prior TPA
9 path that were in place for a short period of time before 1994. Under the prior TPA path, we
10 would retrieve and process approximately twice as much waste by the year 2010 as we will
11 under so-called phased implementation. As part of that clear analysis and depiction, the state
12 and the U.S. Department of Energy owe the public and decision makers a clear presentation of
13 the risk each year from delay. In other words, every year you leave more waste in a tank, you
14 have a set of risks. That is why we are hear tonight. You can not deny it. That is ... we all
15 agree that is why we are here. So the question is, does the public deserve to see what is the
16 risk every year from delay. What is the risk from going forward with a path that the General
17 Accounting Office has said may fail. That the state has said is likely to fail. Because of the
18 Department of Energy's contracting decisions which are outside scope of this EIS, but the
19 risks of failure are in the scope of this EIS and need to be disclosed because decision makers
20 for the next decade sitting 3,000 miles away or in the state capital are going to look at this EIS
21 and say, Ah, the risk of another change in the Tri-Party Agreement and another delay in
22 vitrification of 2, 3, 4, 5, 10 years is not so great and we can not let them say that the risks are

1 not so great. The public deserves to know how much money is going to be taken out of the
2 authorization for Hanford clean up for the so-called privatization reserve. This process is a
3 sham so long as an undisclosed amount of your Hanford clean up dollars are being removed in
4 the future. Let us face it, basically the President and Congress have said you are going to
5 have less money for Hanford clean up, we know what the President's projection is, it is
6 seriously less than it used to be, and out of that a future chunk is going to privatization in a
7 liability reserve but you and I can not see what it is. At the same time, the Department of
8 Energy has target budgets now through the year 1998 which fail to fully fund essential safety
9 and Tri-Party Agreement activities such as characterizing the wastes in these tanks. As the
10 General Accounting Office has said, If you fail to properly characterize, you can not expect
11 the contractors to be able to vitrify and, in fact, anyone can see down the road that the
12 contractors are liable to say, You did not characterize properly, therefore, you owe us the full
13 cost we put out for building the plant and our anticipated profit, we will take that 1.4 whatever
14 billion dollar reserve it is, put it in our corporate pockets, the government will be out that
15 money, you will have a plant that will not work because wastes were not characterized.
16 Currently, the Department of Energy is planning in its budgets to be at least 3 years behind the
17 Tri-Party Agreement requirement for characterizing the wastes. This can not be allowed to go
18 forward.

19 Groundwater data. I find it incredible and I am going to address this, make this
20 personal - Mike Thompson from the Department of Energy - for you to stand in front of the
21 audience and talk about the borehole probably being contaminated when the Department of
22 Energy's own occurrence report conclusively states that, Borehole contamination is not the

1 cause of the contamination found in ... underneath the SX Tank Farm. That the correlation
2 between boreholes, this proves the claim that an individual borehole was contaminated and that
3 would be the source of this cesium finding. Now if that is the official position of the
4 Department of Energy in its occurrence report, I think it is not permissible for you to stand up
5 and without even acknowledging the official position, try to destroy the credibility of the data
6 presented from your contractor.

7 Explosion risks in this EIS. This EIS is based on a 1995 Westinghouse document that
8 assumes a plutonium or uranium nitrate and tributyl phosphate or other solvent exothermic
9 reaction, i.e., a red oil explosion, will only initiate at a 135 degrees centigrade and bases a lot
10 of the risk estimates in terms of things like evaporator risks and explosion risks on that
11 assumption. That assumption was disproven by Los Alamos National Laboratory study a year
12 before this Westinghouse report which is the basis of the EIS. I would like to know why we
13 are paying contractors to ignore official findings of the Department of Energy including there
14 at Hanford which said, We had to put administrative controls on Plutonium Finishing Plant
15 because of an acknowledgement that this reaction could occur temperatures far below
16 135 degrees centigrade. I think that Westinghouse should be penalized for producing a
17 document that ignored the rest of the data at Hanford and from Los Alamos National Lab
18 about the risk of a red oil explosion. The state needs to take a look at that and take a look at
19 how those explosion risks are calculated because frankly, they did the same thing that the state
20 fought in terms of the Plutonium Finishing Plant and they continue to try to get away with
21 saying that this exothermic reaction only occurs at 135 degrees. Secondly, the data ignores the
22 fact that the evidence shows that these reactions release hydrogen at flammable ... above the

1 flammable limits at far lower temperatures and you're likely first to get a hydrogen explosion
2 before you get the explosion from the red oil.

3 Lastly, the fatalities claimed in the summary documents are ridiculous. For instance,
4 100 years for long-term management, radiation fatality from accidents of one. Well, deep
5 within the EIS and from other Westinghouse documents, you will discover that if there is an
6 event, it is likely that there will be 20 to 40 short-term deaths and latent cancer fatalities.
7 If you have one, you are likely to have 40. Now, you can say, "Well we multiplied by the
8 probability except the probability that the department has used", this ridiculous one in a
9 million probability claim, which fails to consider the reality of worker-initiated events in
10 violation of any administrative controls. It is based in essence on the assumption that the
11 Hanford workforce follows rules. It does not drop rocks down high-level nuclear waste tanks.
12 Is that a one in a million likelihood? Well, it happened in the last couple years. In fact, twice
13 in the last year on tanks that were considered to have a potential to explode for hydrogen,
14 administrative controls were violated. So does that mean we have three one in a million
15 likelihood events? In fact, this EIS does not consider how you might calculate these events
16 and needs to be far, far more conservative about their probability and needs to show that the
17 likely fatalities from long-term management are not one fatality, but folks if we fail to remove
18 waste from the tanks we are in deed, according to this EIS, if you substitute 25 tanks ...
19 50 tanks for 25 tanks for hydrogen explosion consider how many other errors similar to this.
20 You have a half of 1 percent likelihood of an explosion. Half of 1 percent. That means two
21 explosions ... one explosion every 200 years. We can not live with that risk. Everyone has to
22 get together to fight to get first of all full disclosure, secondly, to make sure that tanks are not

1 left behind, and thirdly, that no decision makers are lulled into thinking it is safe to leave
2 wastes behind because of this EIS and because the Department of Energy does not give its
3 partner, the State of Washington, the data. I think this was a failed experiment in terms of the
4 state collaborating with the Department of Energy. The U.S. Department of Energy blew it
5 and we will oppose joint EISs in the future unless the state really puts down its foot and insists
6 on some truth and changes here. Thank you.

7 Facilitator - Thanks. Great. All the testimony received at this Seattle hearing as well
8 as the hearings in Portland, Oregon, Washington D.C., Pasco, and Spokane, along with all of
9 the written comments received by May 28, 1996 will be part of the official hearing record for
10 this proposal. The next step in this process is the Final Environmental Impact Statement.
11 The agency will review the public comments and an appendix to the Environmental Impact
12 Statement will be compiled of the comments and responses from the agencies and
13 recommendations about adopting the Final Environmental Impact Statement will occur.
14 This is currently scheduled for July 29, 1996, with the Record of Decision finalized by August
15 29, 1996. So, I'd really like to thank you all for coming and for the courtesy that you
16 expressed to one another and the cooperation to get through all of this. I really appreciate the
17 help you were. People will be available for additional questions now. I think the agency
18 people and likely the other speakers will be here and I would like to officially adjourn this at
19 9:09. Thank you.